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## Comparative Clinical Pathology

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The role of interleukine-12 in protection induced by CpG ODN against *Listeria monocytogenes* in BALB/c and C57BL/6Rad, M.<sup>ae</sup>, Ahmadi, M.<sup>a</sup>, Farid Hosseini, R.<sup>b</sup>, Ashkar, A.A.<sup>c</sup>, Tavakkol Afshari, J.<sup>d</sup><sup>a</sup> Department of Pathobiology, Faculty of Veterinary Medicine, Urmia University, P.O. Box 1177, Urmia, Iran<sup>b</sup> Department of Allergy and Immunology, Mashhad University of Medical Sciences, Mashhad, Iran<sup>c</sup> Department of Pathology and Molecular Medicine, McMaster University Health Sciences Center, Hamilton, Ont., Canada<sup>d</sup> Immunogenetics Division, Bu Ali Research Institute, Mashhad University of Medical Sciences, Mashhad, Iran<sup>e</sup> Department of Pathobiology, School of Veterinary Medicine, Ferdowsi University of Mashhad, P.O. Box 1793-91775, Mashhad, Iran

## Abstract

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Synthetic oligodeoxynucleotides containing CpG motifs have several immune effects such as cytokine production in normal mice. In this study, we demonstrated the protective effect of CpG ODN against *Listeria monocytogenes* in BALB/c and C57BL/6. With a single dose of 40 µg/mouse of CpG ODN 48 h before bacterial challenge, protection was achieved in both strains of mice based on survival rates compared with controls. Serum IL-12 from each mouse was measured by using enzyme-linked immunosorbent assay (ELISA), at day 0 (48 h after CpG treatment) and at days 5, 11, and 15 after bacterial challenge. It was shown that serum IL-12 was only elevated at day 0 in BALB/c mice. However, for C57BL/6 mice, IL-12 was elevated at days 0, 5, and 11. These data support the hypothesis that CpG DNA motifs activate protective innate immune defenses. © Springer-Verlag London Limited 2006.

## Reaxys Database Information

## Author keywords

BALB/c; C57BL/6 mice; CpG ODN; IL-12; *Listeria monocytogenes*

## Indexed Keywords

EMTREE drug terms: CpG oligodeoxynucleotide; interleukin 12

EMTREE medical terms: animal experiment; animal model; antibacterial activity; article; controlled study; enzyme linked immunosorbent assay; immunostimulation; innate immunity; *Listeria monocytogenes*; listeriosis; male; mouse; mouse strain; nonhuman; protein function; protein induction; provocation test; single drug dose; survival rate

Chemicals and CAS Registry Numbers: interleukin 12, 138415-13-1

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